GEOGRAPHIC SCHOOL BULLETINS

THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

VOL. XXXV, NO. 13, JANUARY 7, 1957 . . . *To Know This World, Its Life*

► Illinois, a Nation's Heart

► Earth's Tiny Neighbor, Geographos

► Tasmania Thrives on Varied Bounty

► Lahore, Number 5 of City Series

► Volcanic Iceland

ILLINOIS FARM FAMILY brings "curb service" to Dad. Tractors snarl endlessly on the far-reaching plains where deposits of coal and oil often underlie corn and soy beans

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NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

MICHIGAN AVENUE: Towered show place of Chicago's 5,000 miles of streets and alleys

many of the Nation's transportation lines. "Change in Chicago" is familiar to millions of train passengers who, waiting for outbounds, gasp at the immensities. Towering buildings cast a night gleam suggesting New York; grain marts and bawling stockyards produce food in staggering loads. Roaring plants redden night skies. Nothing has stopped young Chicago's progress—not even the Great Fire of 1871.

Sparked by its civic motto, I WILL, Chicago flaunts a fresh side for every taste. Its scenes lure painters and writers. Aspiring youngsters lean on its very youth for opportunities. Big-minded planners built Soldier Field to seat 100,000; scientists arranged Adler Planetarium's sky to mimic exactly the heavens. Ten thousand specimens of fishes gape back at open-mouthed visitors to Shedd Aquarium. Gothic buildings of the University of Chicago beckon students. Sprawling across 212 square miles, the city breasts the lake for nearly 30 miles, offering a fresh-water coast as respite from summer's heat.

Illinois voices rise to the state song, "By thy rivers gently flowing, Illinois," a song with a literal, and historic, meaning. Most of the state's older towns and cities stand by the 200 rivers and streams. Waters of 23 states wash its surface. At Cairo (pronounced Kay-ro) all waters join. People call the surrounding area of southern Illinois "Egypt" because of resemblance to the Delta of the Nile. But its magnolias and cotton rather suggest the Deep South.

Setting apart all things in Illinois are the haunted eyes and the

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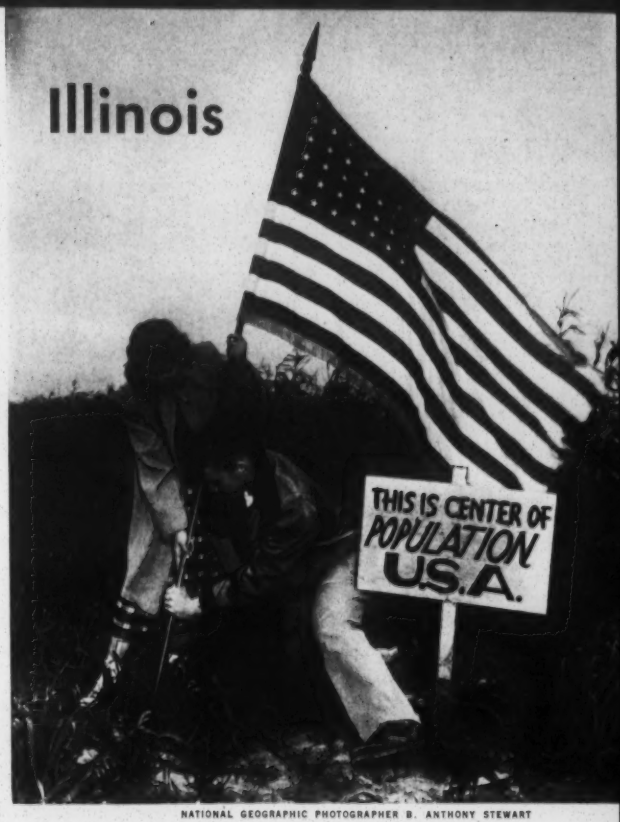
Illinois



NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

IN the middle of an empty cornfield near Olney, Illinois, a boy and girl plant the flag at the United States population center, a theoretical point that creeps westward with each census. Illinois, with 9,000,000 citizens busily working at such all-American pursuits as corn growing, hog raising, oil drilling, tractor manufacturing, and skyscraper building, is a natural pivot for all America's millions.

Indented by Iowa, Missouri, Kentucky, Indiana, and thumb-shaped Lake Michigan, Illinois mingles nature's fertile blessings with a favored geographical location. Great Lakes and Mississippi River made it an early American crossroads. Home-seeking families rooted in many states and nations closed their journeys there. Their energetic offspring and others have raised the Prairie State to fourth in national farm production, fourth in manufacturing, second in wholesale trade, first in rail mileage, and third in banking assets—tidy accomplishments for a state 23rd in size. Beneath two thirds of its productive acres lies coal. Pumps raise around 60,000,000 barrels of oil annually. From downstate comes more than half of the domestic supply of fluor spar, used to produce ceramics, fluorine, chemicals, and metals.

As geologically recent as 25,000 years ago the last of the great land-leveling ice sheets froze the territory, leaving a gentle roll of terrain from north to south. About 90 per cent of the state spreads out on sealike plains. Mosaiclike rectangles and squares denote vast or tiny farms. Tall hedgerows of osage orange make green walls of property lines. Overhead, blades of spindly windmills reap the wind, drawing water for kitchens and cattle. Cardinals flash red feathers from limb and thicket; oaks spread shade in hot summers, stand gaunt in cold Midwestern winters; and violets paint purple patches at dooryards. The cardinal, oak, and violet were chosen as state symbols by vote of Illinois school children.

But Chicago—"stormy, husky, brawling;" there's no place quite like it. Vibrantly alive, roaring, and restless, its three-and-a-half million inhabitants form the Nation's second-largest city. Natural offspring of lake and farm lands, it unwinds vast systems of steel rails, airways, waterways, and roads, focusing

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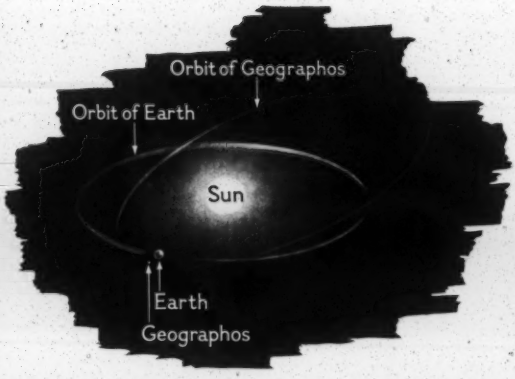


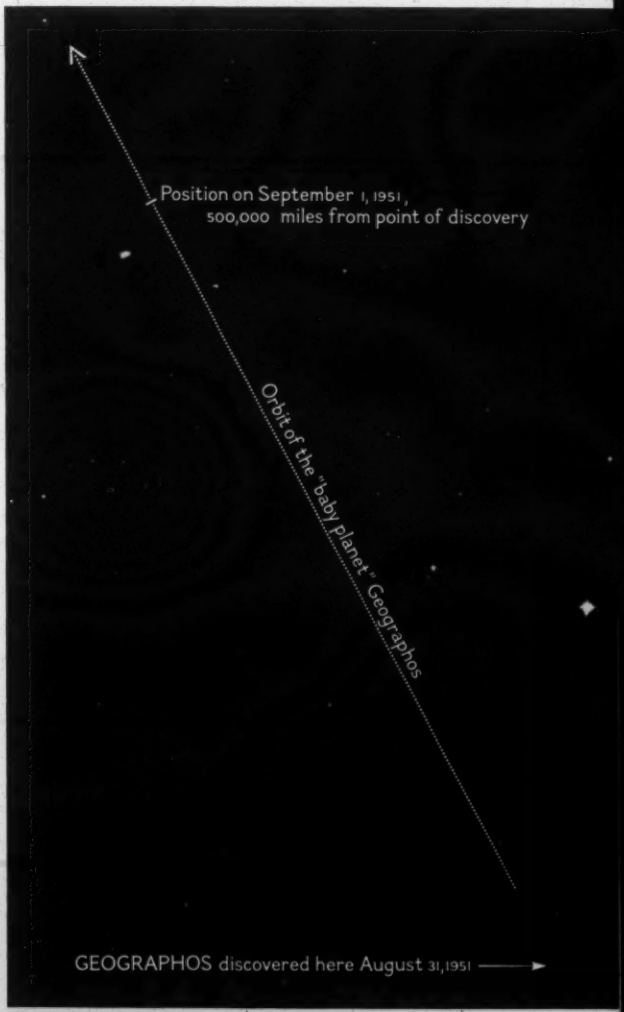
DRAWING BY GILBERT H. EMERSON

Scientists Christen Baby Planet Geographos

THE "most extensive map ever conceived by the mind of man" has uncovered the solar system's smallest planet. The Sky Survey, sponsored by the National Geographic Society and Palomar Observatory in California, has recently finished its herculean seven-year task of charting the heavens (National Geographic Magazine, December, 1956). The Big Schmidt, 48-inch telescope, disclosed many heavenly secrets. But no discovery came closer to home than the mark that appeared on photographic plates August 31, 1951 (lower right).

Dr. Rudolph Minkowski and Dr. Albert G. Wilson recognized the streak as an asteroid, a wandering orb of rock whizzing through the sky a mere 19,000,000 miles away. As discoverers, the two astronomers had the privilege of choosing a name for their little celestial nomad. They decided to call it Geographos in honor of the National Geographic Society.

Except for the moon, Geographos approaches nearer Earth than any other celestial object with a known orbit. The baby planet is probably not much more than a mile in diameter. Even when its elliptical orbit takes it within 4,000,000 miles of Earth, in 1969, it will be too small for the naked eye to see. But if you know where to look you should be able to find it through a comparatively low-power telescope.—


Position on September 1, 1951,
500,000 miles from point of discovery
Orbit of the "baby planet" Geographos
GEOGRAPHOS discovered here August 31, 1951

MOUNT WILSON AND PALOMAR OBSERVATORIES

UMI

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

whimsical mouth of its great son, Abraham Lincoln, the long-remembered image. As with millions now, the Prairie State was home to him. A state park at New Salem has reconstructed the log cabins that Lincoln knew when he lived there from 1831-1837.

One of them, the Henry Onstot cooperage (above) where Abe studied by light of burning shavings, is an original structure. In New Salem, too, stand reminders of the Great Emancipator in the role of store clerk, ill-fated storekeeper, and postmaster. Here he met and loved Ann Rutledge. From this village he was first elected to public office, going to Springfield as a Representative in the State Legislature.

The spirit of Lincoln lingers in Springfield. He loved this prairie-girded capital city. And though today's industry sets a fast pace, the city treasures his tomb and house—the only home Lincoln ever owned. He left it to serve another—the "house divided"—with these words: "No one not in my situation can appreciate my feelings of sadness at this parting." Illinois appreciates the compliment.—S.H.

National Geographic References: ***Map***—The Great Lakes Region (paper 50¢, fabric $1.00). ***Magazine***—Dec., 1953, "Illinois—Healthy Heart of the Nation" (75¢); Feb., 1952, "Vacation Tour Through Lincoln Land" (75¢).

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

Hearing aids pass inspection on a Zenith assembly line at Chicago

plorers to a crawl. A man who covers one mile in 12 hours is doing well.

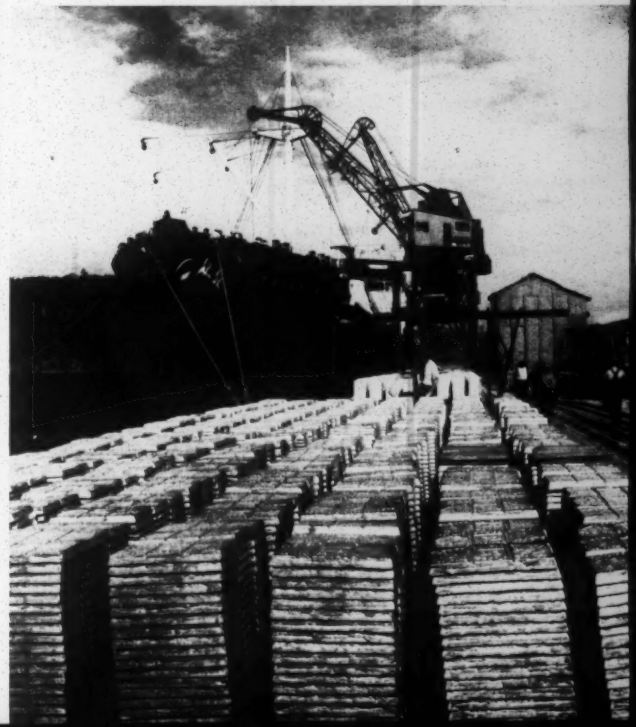
A little larger than West Virginia, heart-shaped Tasmania hangs like a droplet from Australia's southern coast. Eons ago it was connected to the mainland. Tasmania's mountains are the southern extension of the range that ridges the continent's eastern side. But the peninsula's stem sank, leaving an island some 150 miles offshore—as though the tip of Florida were cut off from the United States.

In one way little Tasmania (mainlanders fondly call it "Tassy") contrasts with the dry continent it once joined. It has ample rainfall to keep its rivers flowing and producing power for 96 out of every 100 homes. The island also is home to two weird and ferocious-looking meat-eating marsupials, the Tasmanian devil and the rare Tasmanian tiger, unique in the world.

About 315,000 Tasmanians are apt to be munching apples no matter what else they're doing. Captain Bligh of the famed *Bounty* planted apple trees in 1788. Now the "apple isle" grows an average of 5,000,000 bushels a year and ships them to world markets. But wool is the first export, as it is on the mainland. Fine merino fleeces, baled and stacked in Hobart's wool warehouses (left), sometimes bring record prices for all Australia.

Potatoes and hops thrive in Tasmania's rich soil and damp, cool climate. Dairy cattle graze on neat fields between misted hills. Deep forests support paper mills where much of the newsprint for Sydney and Melbourne dailies is manufactured. Textile mills hum beside rushing streams.

Driving to the mining center of Queenstown in wild western Tasmania, Howell Walker, of the National Geographic Magazine's foreign editorial staff, spotted bare, bright-colored hills. In the December issue of The Magazine, he describes how electric shovels scoop copper ore from open-cut hillside mines. Zinc, another important Tasmanian mineral, is separated from its ore at an electrolytic plant. Derricks hoist the gleaming slabs aboard hulking freighters (below).—E.P.



UMI

Tasmania

A Rich Garden Isle Half A World Away Pours Forth Its Varied Bounty

Photographs by Howell Walker, National Geographic Staff

WHAT could be more pleasantly civilized than the scene above? An excursion boat stirs Tasmania's mirrorlike Derwent River, gliding past rich farms where hops grow on vines, where poplars and hedgerows recall the English countryside. Highway and railroad lead to Hobart, capital of Australia's island state.

Yet not far off, amid wooded hills like those on the horizon, lies a huge, rugged area—a fifth of the whole island—where settlers have only scratched the surface of the wilderness. Here live only two families, both near the coast. Inland, in this "forgotten fifth," sheer mountain walls and primeval forests slow ex-

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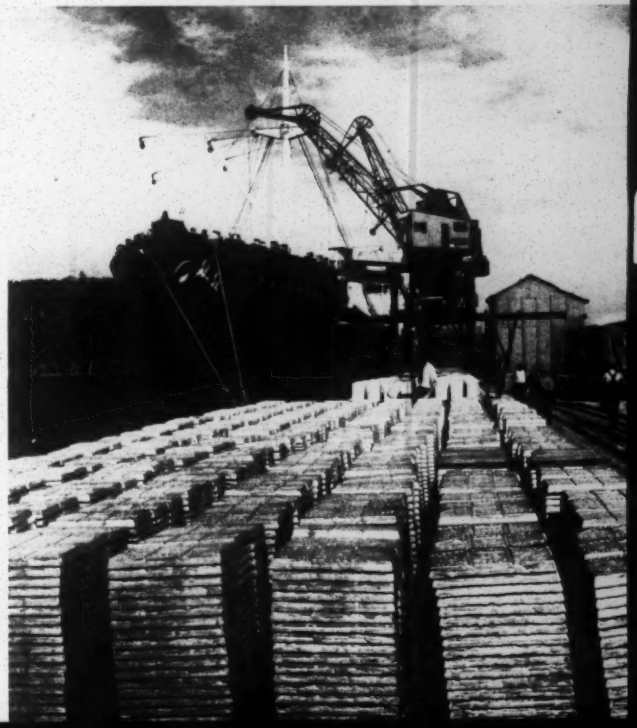

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Emperors, whose empire thrived in the 16th century and whose greatest ruler had given Akbar his name. Emperor Akbar's son built Lahore's Shalimar Gardens, whose clover lawns, Persian roses, orange and mango trees once took water from a source 100 miles away. More than 400 fountains cooled the air at royal command (below).

Then Pakistan became part of British India. In 1940, in Lahore, Moslems decided to form an independent nation. Ten years ago Pakistan became a Republic of the British Commonwealth.

Wheeling through the city on bicycles after lunch, Akbar and his uncle reach Lahore's university with its pink brick cupolas. Girl students pass, gay muslin scarfs tossed across shoulders of bright jumpers. A few wear graceful saris. Mohammed enrolls his nephew, then, as the sun sets, they turn bikes homeward. On the way, Akbar hears plaintive notes from a flute, a sound familiar in West Pakistan's villages. It brings a stab of homesickness. But as he turns into the Mall, Lahore's tree-shaded main avenue, the thrill of new sights returns. The flute music joins the symphony of city sounds and his heart again beats the joyful tune: "I, Akbar, am here in Lahore—truly here."—J.A.

TURBAN serves to pad heavy slabs of rock salt

A day in...

Lahore

PAKISTAN'S MOSLEM SHOWPIECE

PHOTOGRAPHS BY NATIONAL GEOGRAPHIC PHOTOGRAPHER J. BAYLOR ROBERTS

AMONG many noises that awakened Akbar were car horns and tinkling camel bells. He had slept the night in the bullock cart after a long hot trip to Lahore. Son of a Pakistani farmer, Akbar had dreamed for years of seeing the great city of splendid mosques, learned scholars, and modern ways of life. Good monsoons the year before had brought his family fine crops, money enough to send him to Lahore's university.

Now, the horns and bells make a tune in his mind as he rouses: "I, Akbar, am here in Lahore—truly here." Brushing back the black hair that frames his Punjabi face, he gapes at the pulsing street. An elderly tribesman in ballooning trousers urges a stubborn camel to move. A swarthy vendor of enamelware smokes a long-stemmed pipe, or hookah. Amid mingled odors, other vendors sell brassware, cowhide bags, bright lengths of cloth, and chattering emerald parakeets. A large British car inches through thronging streets, honking all the while but scarcely noticed by the crowds.

Akbar asks directions to his uncle's home, where he will live in the months ahead. He follows streets so narrow the sky appears only a blue slit above. Elaborate carvings top old doorways. Small shops jam wares to the ceiling. The streets wander and twist. Akbar soon is quite lost, but he doesn't care; curiosity is stronger than worry. Coming on a square, he looks up, gasps, and stares wide-eyed. Before him, a mosque looms as if from a dream. Towering, swelling domes of white marble rise against the intense blue sky. Intricate floral patterns frame gateways and pavilions of red Mathura stone.

"What mosque is it?" he asks a bystander. The man gives him a puzzled glance. Does the boy not know the great Badshahi Mosque? [above] Akbar wanders on and on, reaching Uncle Mohammed's home for lunch. His aunt stays largely in seclusion, in *purdah*, though the old Moslem custom is fast becoming outdated in Pakistan.

Mealtime chatter teaches Akbar much about Lahore. Ancient capital of Punjab, now capital of the Province of West Pakistan, the city has a million inhabitants—mostly Moslems. It was once the capital of the great Mogul

toric tongue is a source of enormous pride. Many parents shuddered when their children responded with "O-kay" after U.S. soldiers came.

Iceland children fill spare hours with such sports as American children enjoy. They swim, ski, play football, and ice skate. Their parents dote on chess and bridge. The national sport is wrestling, as ours is baseball. In Reykjavík, the capital, crowds pack movie theaters. Homebodies often turn to singing or story-telling. Looking forward to public holiday appearances, women and girls work off hours on full-gathered skirts and satin blouses brightly embroidered. But along the streets you'll see more American-style clothes than not. You'll be struck, too, by so much blonde hair, so many blue eyes.

Life, however, is no merry whirl of game and song. Cold climate and few nat-

© FOTOGRAF ELLEN DAHLBERG, PIX, INC.

ural resources make for hard work and thrifty people. Iceland has been practically shorn of woodlands since the early settlers' axes removed wide forests of birch that carpeted the lowlands between the coast and interior mountains. Now Icelanders shop the forests of America, Alaska, Norway, and elsewhere for seedlings.

"One of our great natural resources is driftwood," an Iceland official commented. In the remote section of Öraefi, farmers once drew lots for areas of seaboard to reap wooden harvests from boat wrecks. Ships bring wood and nearly all the coal Icelanders use. Onetime turf and wood houses gave way in this century to concrete dwellings, bestowing a hard, fortress look to towns.

Reykjavík, however, has a preponderance of wooden houses. A seaport on the southwestern coast, it is the center of government and trade. Few of its 53,000 inhabitants are wealthy. But they share all Icelanders' leaning to books and music.

UMI

ICELAND

Drawing by Connie Eggers

IN 1947-48 ragged-rimmed Hekla spoke again to Iceland in tongues of flame and lava. Southwestern Icelanders stared up 4,747 feet to watch the spectacle roar from the 300-foot-deep crater. Farther off on the island people reflected that this was Hekla's 21st known flare-up. But volcanic extravaganzas in Iceland are like passing shows on Broadway. There are many spouting craters. Twenty have shown their temper since the island was settled by Norwegian refugees in 874.

Sights that Iceland's 142,000 inhabitants casually accept bring wide-eyed stares from United States troops garrisoning the strategic foothold near the Arctic. Milky rivers stream in wild currents from snow fields and glaciers across the mountainous island's 300-mile length. Hot springs simmer under the ground's lava layers (below). Frugal Icelanders pipe hot water to central heating systems in homes, and to hothouses growing southern flowers and fruits (picture, page 155). In a nation where all school children learn to swim, the hot springs feed pools.

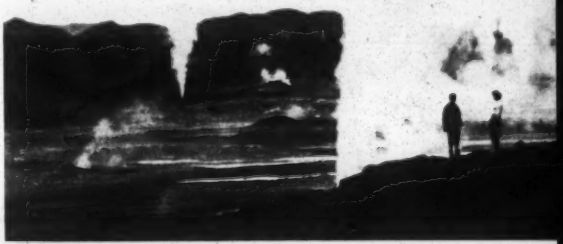
Best-known erupting hot spring is *Geysir,* in southwestern Iceland. Old Faithful in Yellowstone National Park, and other geysers about the world took their names from Iceland's *Geysir*—which hurls a hot column 150 feet into the air.

Iceland's name belies many other natural attractions. Some 400 different species of flowers awaken to summer's long daylight. Reindeer introduced from Norway roam the northeastern highlands. Seals take siestas among the coastal rocks. Whales are not infrequent visitors. Like wandering hobos, polar bears occasionally ride to the coast on drifting ice. Sea birds swarm about coastal crags. Daring Icelanders sometimes catch them by lowering themselves on ropes from cliffs. Night skies often display one of nature's weirdest shows, the aurora borealis, or northern lights.

Long sequestered by sea and distances, Icelanders have become a closely-knit people, treasuring their culture. Most of their forebears could read and write by the end of the 18th century. They revel in their classical literature, modern books, and current events. Literacy ranks high.

The Icelandic language is spoken about the same way it fell from the Norsemen's lips a thousand years ago. This his-

NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL



NATIONAL GEOGRAPHIC SOCIETY MAP

blow so hard the snow seems to rage sidewise.

Over half a century ago many Icelanders migrated to America. Their stock appears in Minnesota and the Dakotas, California, and Oregon. Other offspring mingle in populations of Canada's Manitoba, Winnipeg Saskatchewan, Alberta, and British Columbia. But most have stayed home, singing their attachment in their anthem: "Iceland's thousand years—Iceland's thousand years! A quivering flowerlet, that humbly appears to greet Thee, then fadeth away."—S.H.

Iceland, *continued*

They enjoy an observatory, library, theater, many schools, and a university. There is a modern airport and good anchorage for ships.

Most communities stand on the south and southwestern plains, clear of the interior's volcanoes, diving temperatures, and sparse vegetation. Short summers forbid the raising of wheat and other grains. But many small, family-worked farms yield quick-growing vegetables, in patches protected from winds. Iceland's winds are something for man or vegetation to experience: sometimes they

NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL